

**PARIS**

**water pollution  
control plant**

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**Division of Plant Operations**

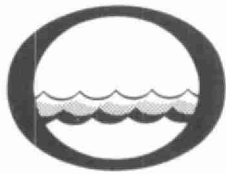
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*Water management in Ontario*

Ontario  
Water Resources  
Commission

135 St. Clair Ave. W.  
Toronto 7  
Ontario

We are pleased to present you with the Operating Summary for the water pollution control facilities operated for you during 1968.

Both the financial and technical information presented should be of assistance to your present and future planning in this important phase of municipal activity.

A new format has been devised to allow greater readability with equally detailed content. We trust that this will meet with your approval.

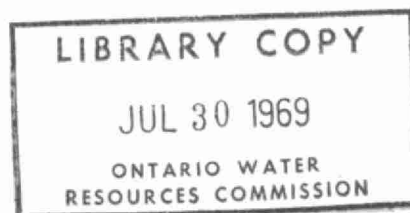
Our staff wish to express their appreciation for your co-operation throughout the year.



D. S. Caverly,  
General Manager.



D. A. McTavish, P. Eng.,  
Director,  
Division of Plant Operations.



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**PARIS**  
**water pollution control plant**

operated for

THE TOWN OF PARIS

by the

ONTARIO WATER RESOURCES COMMISSION

**1968 ANNUAL OPERATING SUMMARY**

## FOREWORD

● This operating summary outlines the project's technical capabilities and financial status in 1968. Such information mirrors past and present performance, but a major intention is to anticipate the future -- to solve problems before they occur.

The new format in which this year's data are presented is designed to offer a higher level of readability than in the past, without a corresponding decrease in compactness, accuracy and detail.

Although your Regional Operations Engineer carries the major responsibility for the contents of the report, those involved in its preparation are attached to several Commission sections and divisions. The statistics section of the Division of Plant Operations compiled the information for the graphs and charts. The draughting section of the Division of Sanitary Engineering drew the graphs. The Division of Finance provided all cost data.

Only the close co-operation of these departments allowed the publication of this summary.

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## **'68 REVIEW**

The Paris waterpollution control plant operated efficiently throughout the year, treating a total of 78.08 million gallons of raw sewage. The total operating cost for 1968 was \$13,098.51, an increase of \$1,635.39 over 1967. The cost per million gallons treated was \$174.46. The average BOD in the final effluent of 13 mg/l was within the OWRC objective of 15. The suspended solids averaged slightly higher at 27 mg/l, but this is to be expected in the extended aeration process.

The flow recording device was modified during the past year, and flows recorded in this report are considered accurate.

The ingenuity and resourcefulness of the Chief Operator, Henry Nelles, and Plant Operations technical staff produced a solution to cold weather operational problems. Canvas shrouds were installed on all aerators, eliminating ice build-up on the cones and bridges, and limiting the cooling of mixed liquor. This eliminated ice formation in the final clarifier.

The final report on plant expansion has not yet been received from the consultant, J. D. Lee.

## PROJECT COSTS

NET CAPITAL COST (Estimated)		\$726,125.80
DEDUCT - Payments from Municipalities	\$ 52,170.00	
- Portion Financed by CMHC-MDLB (Estimated)	<u>365,238.90</u>	<u>417,408.90</u>
Long Term Debt to OWRC		<u>\$308,716.90</u>
Debt Retirement Balance at Credit (Sinking Fund) December 31, 1968		\$ <u>45,093.72</u>
Net Operating		\$ 13,098.51
Debt Retirement		6,230.00
Reserve		4,049.69
Interest Charged		<u>17,326.81</u>
TOTAL		\$ <u>40,705.01</u>

### RESERVE ACCOUNT

Balance at January 1, 1968	\$ 23,332.52
Deposited by Municipality	4,049.69
Interest Earned	<u>1,457.31</u>
	\$ 28,839.52
Less Expenditures	<u>1,810.37</u>
Balance at December 31, 1968	\$ <u>27,029.15</u>



SPECIAL OPERATING AGREEMENT

NET CAPITAL COST	
Long Term Debt to OWRC	\$ Nil
Debt Retirement Balance at Credit (Sinking Fund) December 31, 1968	\$ Nil
Net Operating	\$ Nil
Debt Retirement	Nil
Reserve	278.00
Interest Charged	<u>Nil</u>
TOTAL	\$ <u>278.00</u>

RESERVE ACCOUNT

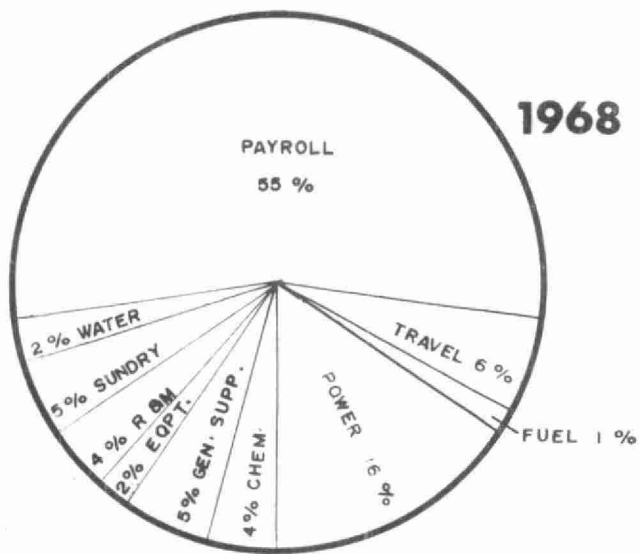
Balance at January 1, 1968	\$ 432.65
Deposited by Municipality	278.00
Interest Earned	<u>32.38</u>
	\$ 743.03
Less Expenditures	<u>Nil</u>
Balance at December 31, 1968	\$ <u>743.03</u>

## Monthly Operating Costs

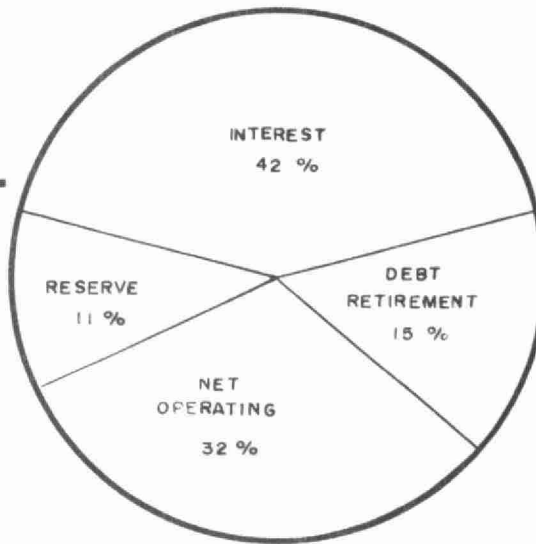
MONTH	TOTAL EXPENDITURE	PAYROLL	CASUAL PAY ROLL	FUEL	POWER	CHEMICAL	GENERAL SUPPLIES	EQUIPMENT	REPAIRS & MAINTENANCE	* SUNDRY	WATER	TRAVEL
JAN	609.23	481.45	-	-	-	-	60.81	-	50.76	16.21	-	-
FEB	1549.30	473.39	-	-	195.36	238.61	110.55	372.54	50.70	-	-	108.15
MAR	1287.60	728.03	-	54.35	194.44	-	129.34	52.56	-	51.80	-	77.08
APRIL	832.94	457.27	-	-	181.39	34.55	16.77	-	15.06	-	75.60	52.30
MAY	1178.63	674.96	-	-	184.22	-	51.21	26.25	-	188.15	-	53.84
JUNE	690.64	473.39	-	60.36	177.79	-	67.73	(295.63)	120.00	-	34.36	52.64
JULY	874.24	455.12	-	-	169.17	-	9.75	114.69	-	72.48	-	53.03
AUG	1110.47	691.01	-	-	168.70	-	83.20	-	76.96	-	38.86	51.74
SEPT	1042.70	473.26	-	-	169.48	238.61	40.37	26.20	-	33.04	-	61.74
OCT	991.13	483.61	-	-	172.14	40.85	12.80	-	132.10	16.52	50.56	82.55
NOV	1183.71	550.19	-	-	181.33	-	47.80	-	-	303.12	-	101.27
DEC	1747.92	1177.83	-	60.15	243.52	-	52.35	-	96.14	18.51	52.36	47.06
TOTAL	13098.51	7119.51	-	174.86	2037.54	552.62	682.68	296.61	541.72	699.83	251.74	741.40

\*SUNDRY INCLUDES SLUDGE HAULING COSTS WHICH WERE \$330.35

BRACKETS INDICATE CREDIT



## TOTAL ANNUAL COST



## Yearly Operating Costs

YEAR	M.G.TREATED	TOTAL COST	COST PER MILLION GALLONS	COST PER LB OF BOD REMOVED
1965	* 149.73	\$ 8,109.72	\$ 54.16	3 cents
1966	* 169.98	10,267.83	60.41	4 cents
1967	* 183.98	11,463.12	62.33	3 cents
1968	75.08	13,098.51	174.46	8 cents

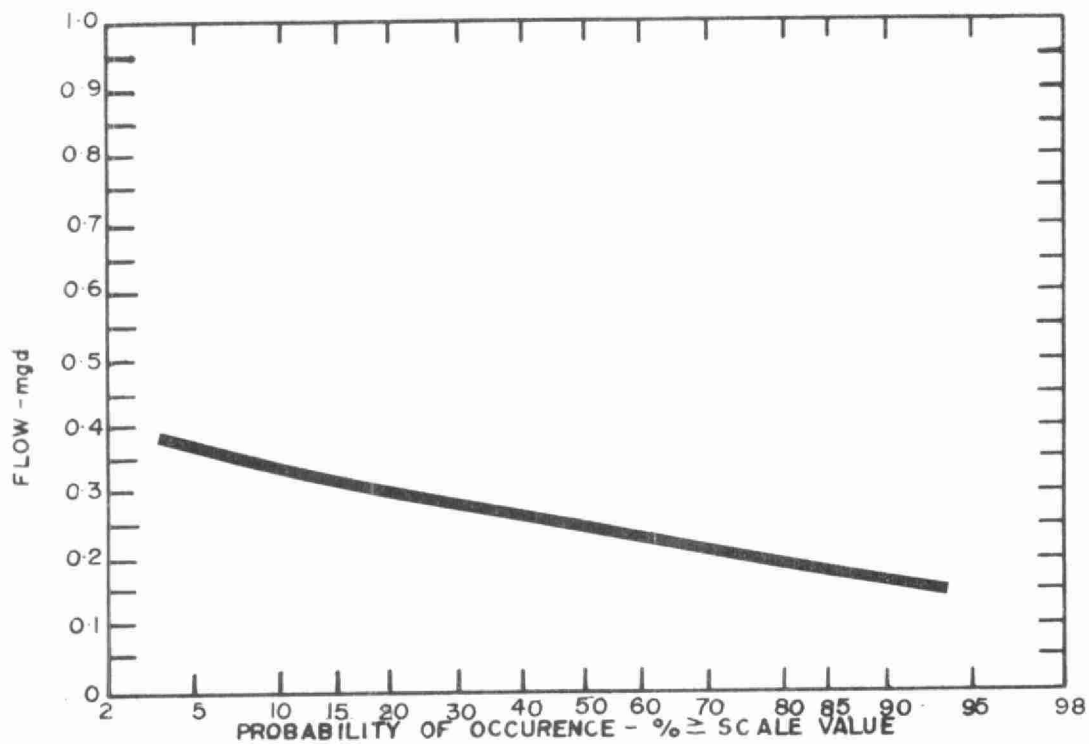
\* Flow meter inaccurate

## **Process Data**

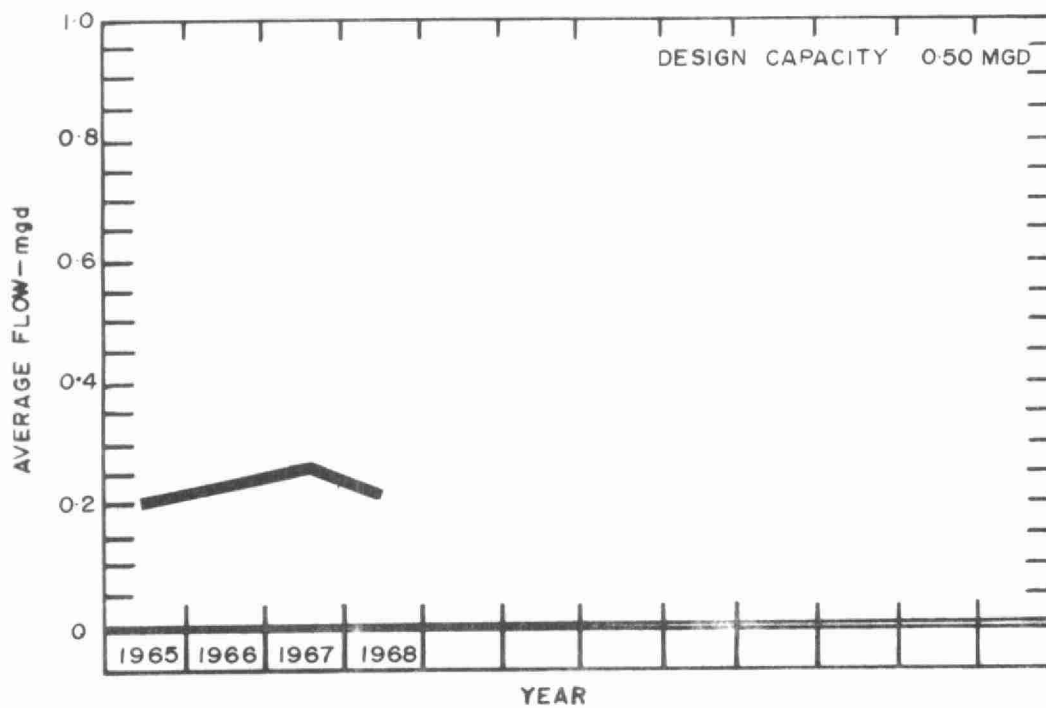
The total raw sewage flow treated at the plant in 1968 was 75.08 million gallons. The average daily flow for the year was 0.21 MG, 42% of the design capacity of 0.5 MG. The maximum daily flow of 0.43 MG occurred in both November and December with a minimum daily flow of 0.07 MG in August.

## PLANT FLOWS and CHLORINATION

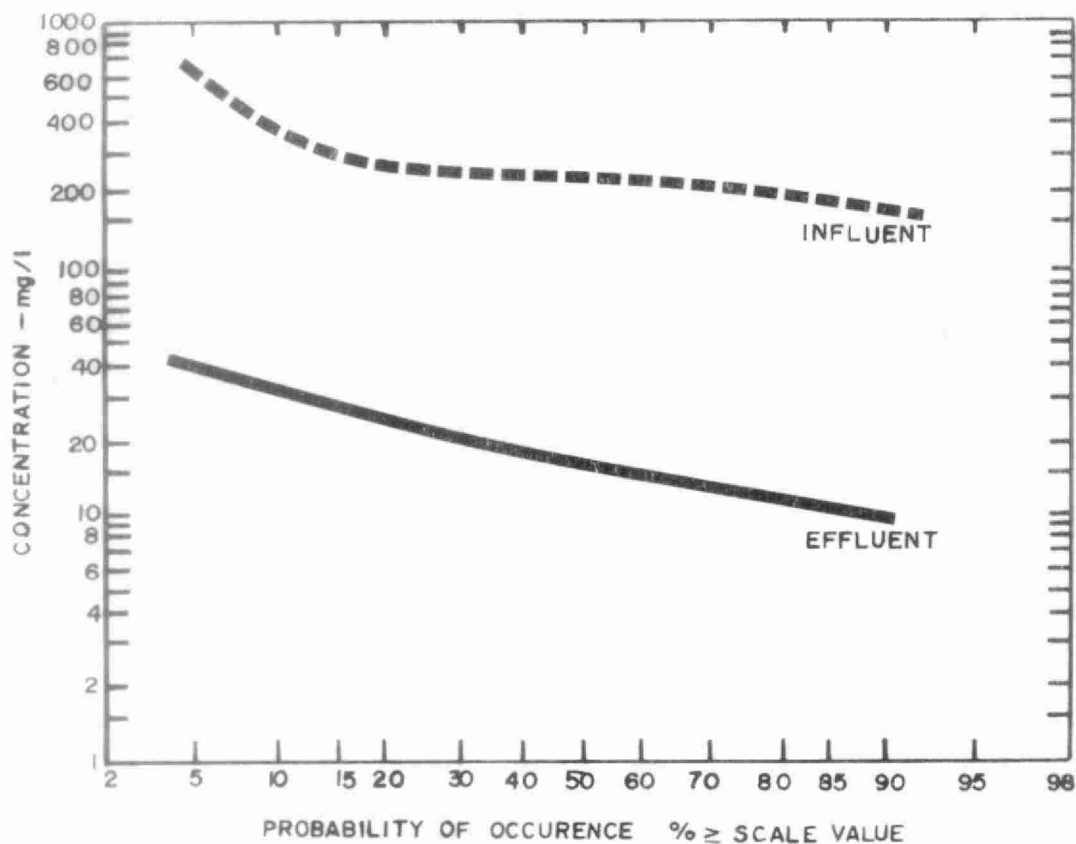
MONTH	TOTAL FLOW mg	AVERAGE DAILY FLOW mg	MAXIMUM DAILY FLOW mg	MINIMUM DAILY FLOW mg	CHLORINE USED lbs.	DOSAGE mg/l
JAN	5.74	.19	.25	.11	151	4.5
FEB	7.00	.24	.36	.13	255	3.6
MAR	6.57	.21	.29	.11	229	3.5
APR	5.18	.17	.25	.09	183	3.5
MAY	4.88	.16	.22	.07	214	4.3
JUN	5.48	.18	.35	.09	237	4.3
JUL	5.28	.17	.27	.08	218	4.1
AUG	5.76	.19	.31	.07	246	4.2
SEPT	6.74	.22	.41	.10	247	3.7
OCT	6.87	.22	.30	.10	296	4.3
NOV	7.76	.26	.43	.12	303	3.9
DEC	7.82	.25	.43	.13	297	3.8
TOTAL	75.08	-	-	-	2876	-
AVERAGE	-	.21	-	-	240	3.8



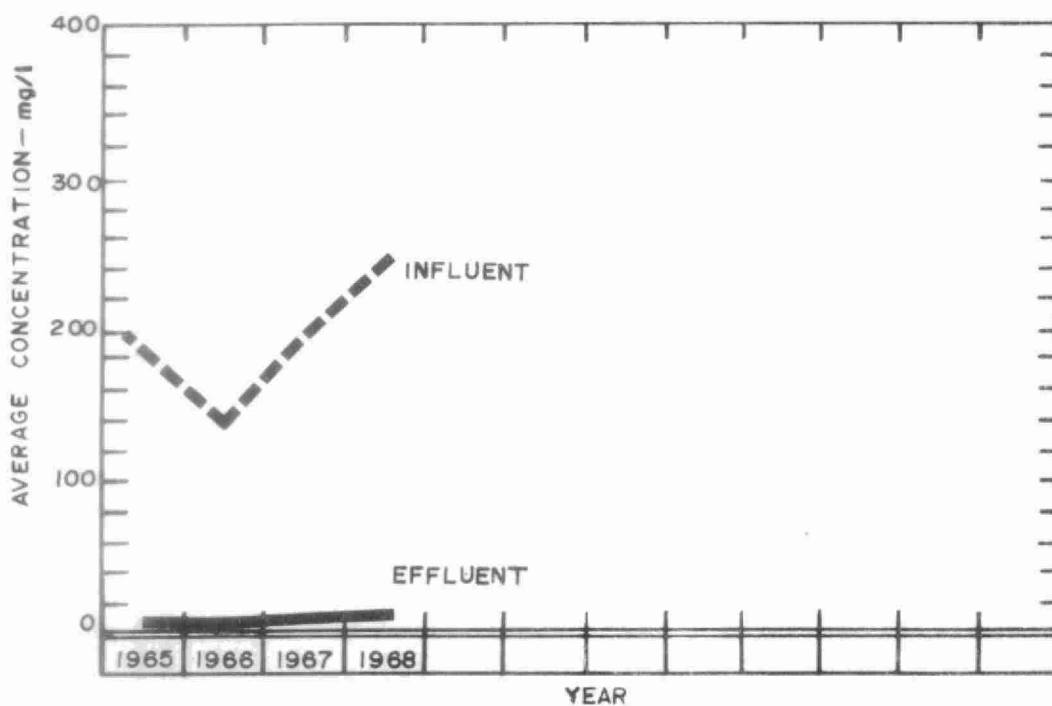
## \* F L O W S

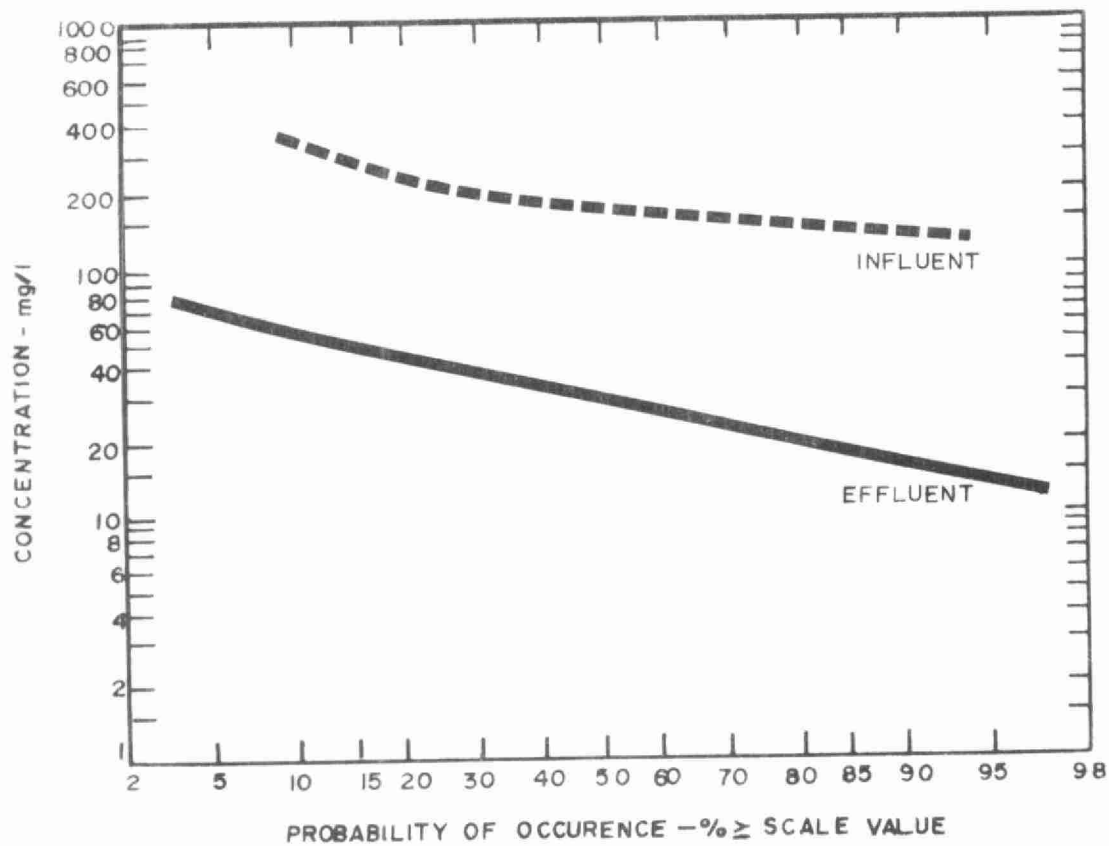


† Flows estimated 1965-67

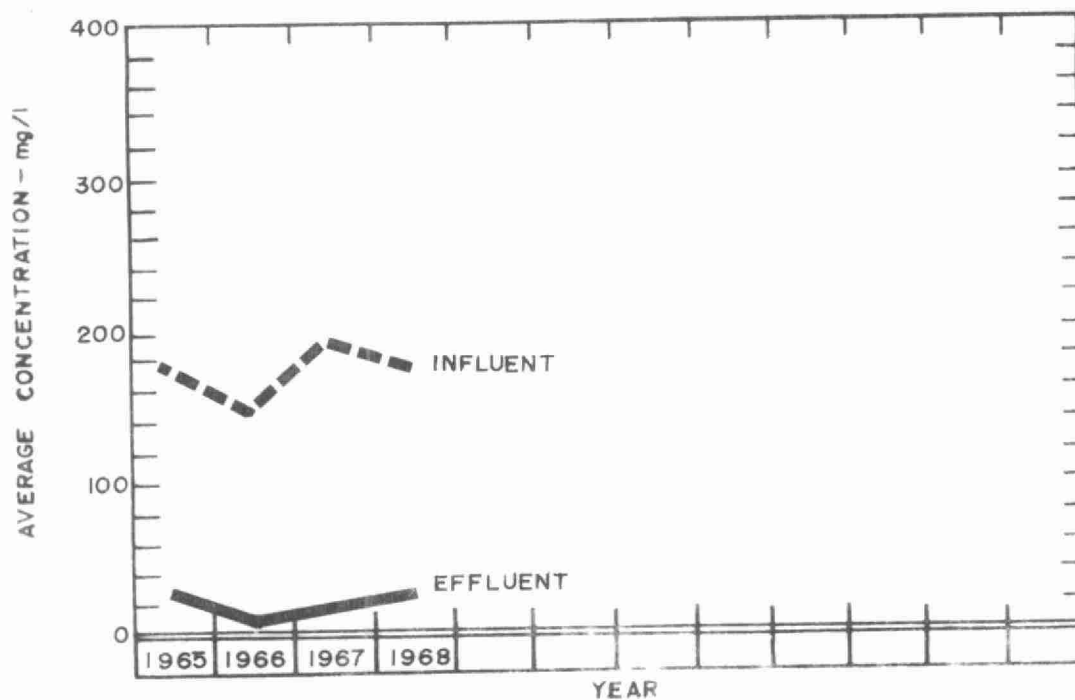


## BIOCHEMICAL OXYGEN DEMAND





## SUSPENDED SOLIDS





## PLANT EFFICIENCY

MONTH	BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				GRIT
	INF CONC <sup>N</sup> mg/l	EFF CONC <sup>N</sup> mg/l	RED <sup>N</sup> %	REMOVAL 10 <sup>3</sup> lb	INF CONC <sup>N</sup> mg/l	EFF CONC <sup>N</sup> mg/l	RED <sup>N</sup> %	REMOVAL 10 <sup>3</sup> lb	REMOVAL ft <sup>3</sup>
JAN	-	-	-	-	-	-	-	-	-
FEB	153	17	89	9.5	154	34	78	8.4	0
MAR	158	8	95	9.9	126	19	85	7.0	0
APR	211	17	92	10.8	144	40	72	6.1	0
MAY	313	17	95	14.4	163	31	81	6.4	0
JUN	240	10	96	12.6	312	17	95	16.2	0
JULY	120	5	96	6.0	183	20	89	8.6	0
AUG	595	5	99	34.0	-	16	-	-	0
SEPT	225	16	93	14.1	243	41	83	13.6	0
OCT	202	15	92	12.8	134	38	72	6.6	13
NOV	251	24	90	17.6	141	28	80	8.8	15
DEC	211	7	97	15.9	160	13	92	11.5	0
TOTAL	-	-	-	-	-	-	-	-	28
AVERAGE	244	13	95	14.3	176	27	85	9.3	23

### COMMENTS

The average strength of raw sewage was 244 mg/l BOD and 176 mg/l suspended solids. An increased organic load has been placed on the plant by the septic tank wastes, now being dumped in municipal sewers. This has not adversely affected plant operation or efficiency, however.

The removal efficiencies of 95% for BOD and 85% for suspended solids are acceptable for the extended aeration process.

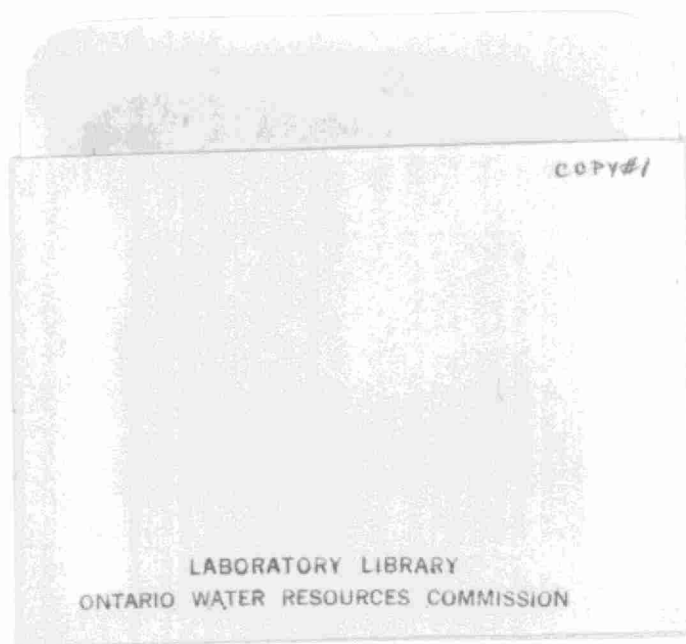


## CONCLUSIONS

The Paris water pollution control plant operated efficiently in 1968, producing a satisfactory effluent by OWRC standards. Hydraulic loading of the plant was well below design capacity. However, the addition of certain equipment eliminated from the original project as a cost-saving measure would be desirable at this time. In particular, the lack of a second final clarifier mechanism and raw sewage pump seriously hampers maintenance of the existing equipment and no standby units are available in the event of a breakdown.

## RECOMMENDATIONS

It is recommended that consideration be given to the addition of a second clarifier mechanism and raw sewage pump to provide standby equipment and to allow preventive maintenance on existing units.





*Water management in Ontario*